

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION**

In the Matter of)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	

**COMMENTS OF THE NATIONAL
RURAL ELECTRIC COOPERATIVE ASSOCIATION**

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EXECUTIVE SUMMARY

NRECA is the not-for-profit, national service organization representing nearly 930 not-for-profit, member-owned rural electric cooperative systems, which serve 42 million customers in 47 states. NRECA estimates that electric cooperatives own and maintain 2.5 million miles of the electric power lines, yet average fewer than seven customers per mile of electric distribution line. This low population density creates a significant obstacle to rapid deployment of broadband service to rural communities, many of which present additional challenges of rugged terrain. NRECA is pleased to have this opportunity to offer comments in this proceeding to craft a much needed national broadband plan that will ensure that rural America is not left behind.

NRECA urges the Commission to work with other federal agencies to develop flexible, future-proof definitions that can be uniformly applied to all broadband initiatives. If the terms “broadband capability” and “broadband service” are intended to be used interchangeably, the definitions should be unified for the sake of clarity. There should also be a presumption that all counties designated as “rural” are “unserved” or “underserved.

Further, NRECA urges the modification of universal service programs to facilitate broadband deployment in rural and low-income communities. Accurate broadband mapping, including the proper socio-economic metrics, will help to ensure that the neediest of the nation’s communities are identified and ultimately provided with the resources and opportunities that today’s broadband-enabled communities currently enjoy.

NRECA strongly urges that the Commission recommend to Congress that the cooperative exemption from the FCC’s pole attachment regulations remains sound public policy. Claims by some that access to cooperative poles must be mandated to avoid impediments to broadband

deployments are vastly exaggerated, ignore true impediments, including low population density, rugged topography, and in some cases, an uncertain level of demand for services.

NRECA urges the Commission to coordinate with other agencies to optimize the deployment of broadband and smart grid technologies. Broadband technology is fundamental to effective operation of the smart grid concept. The creation of a national broadband plan presents an opportunity for the Commission to ensure rural consumers gain long overdue access to broadband capabilities while encouraging the deployment of smart grid technologies, both at a reasonable cost. Further, NRECA urges the Commission to allocate adequate spectrum, or alternatively, offer substantial bidding credits, to Co-ops and other small businesses interested in providing broadband services in sparsely populated communities.

**BEFORE THE
DEPARTMENT OF COMMERCE
NATIONAL TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION
AND
DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE**

In the Matter of)	
A National Broadband Plan)	Docket No. 09-51
for Our Future)	

**COMMENTS OF THE NATIONAL
RURAL ELECTRIC COOPERATIVE ASSOCIATION**

The National Rural Electric Cooperative Association (“NRECA”) submits its comments to the Federal Communications Commission (“FCC” or “Commission”) in response to the Notice of Inquiry regarding the development of a national broadband plan for our country.¹

I. INTRODUCTION

NRECA is the not-for-profit, national service organization representing nearly 930 not-for-profit, member-owned rural electric cooperatives systems, which serve 42 million customers in 47 states.

¹ *A National Broadband Plan for the Future*, GN Docket No. 09-51, Notice of Inquiry, 24 FCC Rcd 4342 (2009) (National Broadband Plan NOI), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-31A1.pdf.

Rural electric cooperatives (“Electric Cooperatives” or “Electric Co-ops”) employ approximately 70,000 people in the United States, serving 18 million businesses, homes, schools, churches, farms and other establishments in 2,500 of the 3,141 counties in the U.S.

NRECA estimates that Cooperatives own and maintain 2.5 million miles of the electric power lines, or 42% of the nation’s electric distribution lines covering three quarters of the nation’s landmass. However, Cooperatives still average fewer than seven customers per mile of electric distribution line and this low population density continues to preclude rapid deployment of broadband service to rural communities. Low population densities together with the issues of traversing vast expanses of remote and often rugged topography present unique economic and technological barriers to the deployment of broadband to rural America.

Indeed, access to broadband in rural America still lags behind access in other areas of the country. According to a Pew 2008 report, 38% of people living in rural America have broadband at home as compared to 57% of urban residents and 60% of suburban residents.² Rural Americans are being denied the benefits of broadband — such benefits enable better health care, education and business opportunities. Meanwhile, according to the USDA, unemployment and poverty rates have been rising significantly in rural areas.³ NRECA’s members understand well the importance of improving economic opportunities for rural Americans. The median per capita income of Electric Co-op consumers is \$21,435 – 21% lower than the national average. As the attached map shows, the average per capita income of consumers in the service areas of 93% (790) of the nation’s Electric Co-ops is below the U.S. national average per capita income of

² John B. Horrigan, Pew Internet & American Life Project, Home Broadband Adoption 2008, at 3, *available at* <http://www.pewinternet.org/Reports/2008/Home-Broadband-2008.aspx>.

³ USDA Economic Research Service, Rural America at a Glance: 2008 Edition, Econ. Info. Bulletin No. 40, (Oct. 2008), *available at* <http://www.ers.usda.gov/Publications/EIB40/>.

\$27,260.00.⁴ Broadband availability can help close this gap by providing rural communities with greater access to quality education and business opportunities.

A number of Cooperatives currently provide telecommunications, dial-up Internet access and broadband services to rural consumers over a variety of platforms, including satellite, WiFi or WiMAX, Fiber and Broadband over Power Line (“BPL”). Cooperatives, like other electric utilities, must have robust internal telecommunications systems to operate their electric systems. Several Electric Co-ops have leveraged these internal networks to provide broadband services to their communities. Electric Co-ops also provide high-speed and robust connections to institutions such as schools, libraries and hospitals, as well as to business customers. As one example, the Southeast Colorado Power Association (“SECPA”), which has a rural service territory of nearly 12,000 square miles, partnered with the State of Colorado in 1998 to install 600 miles of fiber optic cable to provide broadband connectivity to 22 rural schools, rural libraries, hospitals and two junior colleges. In addition, SECPA, through its subsidiary SECOM, provides both residential and commercial broadband, as well as wholesale Internet bandwidth, Ethernet circuits, and other services.⁵

Electric Co-ops, demonstrating the same resolve that brought electricity to rural America, are already bringing broadband to rural, low-density areas that commercial providers may view as insufficiently profitable. Often, these networks were designed to support the Electric Co-op’s internal communications applications. The substantial excess capacity of these networks, however, can be utilized to provide services, such as Internet access, to residents, government agencies and private businesses. In Missouri, Electric Co-ops, in coordination with the state, have been building out a high-speed open access fiber network throughout the state. Since 1996,

⁴ Co-op Consumer Per Capita Income, attached as Exhibit 1.

⁵ See product descriptions at <http://www.secom.net/Sites/Products.html> (last viewed on 6/8/2009).

over 5,000 miles of fiber has been installed, connecting schools, hospitals, court houses, National Guard armories among other critical community institutions.⁶ Towers at each electrical substation with a connection to the fiber optic network could mean statewide wireless broadband coverage. For 2009, the network is working at a six 9's standard of reliability, i.e., 99.9999%. One of those Missouri Electric Co-ops, Intercounty Electric Cooperative, is currently installing fiber to serve a very rural community of only 214 homes.

In other states, at least 16 Electric Co-ops are working to deploy BPL solutions throughout their entire networks.⁷ While the cooperatives use these networks for their own internal utility applications, the deployment is often ultimately driven by cooperative member demand for broadband access in their service territories.⁸ In Oregon, LS Networks, a state-wide inter-exchange company owned by five Oregon electric cooperatives and one Indian Tribe, operates and maintains a carrier optical network over 2,250 miles across Oregon rural cities. LS Networks is looking to expand its services and provide broadband in unserved and underserved areas of the state.⁹

NRECA and its members know all too well that for rural communities access to broadband is a prerequisite to sustainable economic development. These are only a few examples of how rural electric cooperatives are currently helping the Commission to meet its goal of ensuring broadband access to the nation's currently unserved and underserved areas. While deployment of these networks is often partly funded with federal loans and grants, achieving the vision of a nation completely connected by broadband will require a much more

⁶ See network map at <http://www.shometech.com/netmap.pdf> (last viewed on 6/8/2009).

⁷ See Response of Request for Information by International Broadband Electric Communications, Inc., available at <http://www.ntia.doc.gov/broadbandgrants/comments/727F.pdf>

⁸ Id.

⁹ See <http://www.lsnetworks.net> for more information on LS Networks. (last viewed on 6/8/2009).

substantial federal investment. Electric Co-ops can do even more, but will need federal funding programs with criteria that is flexible enough to meet the needs of diverse rural communities and innovative business models.

II. DEVELOPING THE NATIONAL BROADBAND PLAN

NRECA welcomes the opportunity to comment on the Commission's development of a national broadband plan. It commends the FCC for expeditiously embarking on such an important endeavor that promises not only to restore the economic well-being of rural Americans, but to usher in a new era of opportunity for rural America. NRECA applauds Acting Chairman Copps for his Report to Congress, Bringing Broadband to Rural America¹⁰ and its recognition of the various federal programs and initiatives that have helped to solve some of the greatest infrastructure challenges of a growing nation. In particular, the Rural Broadband Report highlights the success of the rural electrification program. During a period of deep economic depression, the federal government, through its financing of Electric Cooperatives, embarked on a "wildly successful"¹¹ project to bring electricity to low profit rural areas.

Today, the nation is faced with a similar challenge. Lack of private investment in low profit rural areas has stymied the deployment of what has become a new breed of utility - broadband - to much of rural America. Even in today's troubled economy, the "wild success" of the rural electrification program can be repeated with the deployment of broadband capabilities to all Americans. NRECA shares Acting Chairman Copps' sentiment that the Rural Broadband

¹⁰ See FCC *Bringing Broadband to Rural America: Report on A Rural Broadband Strategy*, GN Docket No. 09-29 (May 22, 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291014A1.pdf. (last viewed on 6/8/2009).

¹¹ Id. at para. 37.

Report is a “building block” for the national broadband plan.¹² The nation’s Electric Cooperatives have been down this road before and possess the experience in constructing robust and reliable networks. In many instances, Electric Cooperatives already possess core infrastructure and expertise to facilitate the deployment of broadband within their service territories. NRECA further commends not only the Commission, but also the National Telecommunications and Information Administration (“NTIA”) and the Rural Utilities Service (“RUS”) for the interagency cooperation and extensive public outreach which they have exhibited. We encourage the agencies to continue this same level of cooperation to help expedite the deployment of broadband nationwide.

While the American Recovery and Reinvestment Act of 2009¹³ (“ARRA”) provides significant funding for broadband deployment through the NTIA’s Broadband Technology Opportunities Program (“BTOP”) grants and through the RUS broadband grants and loans program, the funding allocated is nowhere sufficient to meet the nation’s broadband needs. It will take significantly more than two years and 7.2 billion in federal dollars to accomplish the Administration’s goal of achieving broadband capability for every American. For years, Electric Cooperatives have been among the providers deploying broadband to rural, low-density areas that others have regarded as insufficiently profitable. The undertaking has not been easy or inexpensive. Electric Co-ops stand ready to extend the reach of their offerings even further, directly or through partnerships with others, but significant funding is required for such deployments to be conducted expeditiously. Thus, the FCC’s development of a national broadband plan is the critical next step in continuing the economic growth spurred by the

¹² FCC, *FCC Acting Chairman Copps Releases Report on Broadband Strategy for Rural America*, FCC News Release (May 27, 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291014A1.pdf. (last viewed on 6/8/2009).

¹³ Pub. L. No. 11-5, 123 Stat. 115 (2009) (“ARRA”).

ARRA's "seed money" to fund broadband buildouts in unserved and underserved areas of the country.

III. BROADBAND DEFINITIONS SHOULD BE FLEXIBLE AND FUTURE-PROOF

The Commission asks a series of questions regarding how to define certain terms regarding broadband capability. In related proceedings¹⁴, NRECA has urged that the FCC definition of "broadband" should be maintained: "advanced communications systems capable of providing high-speed transmission of services such as data, voice and video over the Internet and other networks. Transmission is provided by a wide range of technologies, including digital subscriber line and fiber optic cable, coaxial cable, wireless technology, and satellite."¹⁵ While understanding that faster broadband data speeds are obviously better (and indeed some of its members are providing optimal speeds), NRECA does not believe that the FCC should establish threshold or hard-line data speed standards. Broadband speed is relative to the area of service. Definitions should remain sufficiently flexible to ensure difficult to serve areas are not precluded from service by the adoption of "one size fits all" threshold speeds. There are too many rural areas where terrestrial service is not an option and where satellite service may be the only feasible choice for service. Additionally, in many remote areas, satellite broadband may be the only affordable broadband alternative to sluggish dial-up service. If the Commission is compelled to establish threshold speeds it should establish separate thresholds for different technology platforms. NRECA agrees that, to the extent feasible, investment should be made in rural broadband networks that are readily upgradeable to meet future bandwidth demands.

¹⁴ Comments of the National Rural Electric Cooperative Association Submitted to the National Telecommunications and Information Administration and to the Rural Utilities Service in response to the Joint Request for Information and Notice of Public Meeting regarding broadband initiatives of ARRA at 13, Docket No. 090309298-9299-01 (Filed April 1993).

¹⁵ *Id.* Roundtable on NTIA and RUS Coordination on Broadband Industries, Series 2, Comments of Brad Ramsey representing NARUC, Comments of Jeff Arnold, representing NACo, and Comments of Derrick Owens representing the Western Telecommunications Alliance.

However, the most difficult to serve communities without any broadband access should not be denied adequate bandwidth they could use today, over concerns of increased needs they may have in the future.

The Commission specifically asks whether to unify certain definitions or whether they should have separate meanings for different purposes.¹⁶ NRECA believes that definitions that can be unified under various statutory schemes should be. For example, NTIA's and RUS' joint request for information sought comment on how "broadband service" should be defined.¹⁷ Here, the Commission seeks to ensure that all people of the United States have access to "broadband capability" and seeks definition of that term.¹⁸ If the terms "broadband capability" and "broadband service" are intended to be used interchangeably, the definitions should be unified for the sake of clarity. Needless complexity and inconsistency only serve to frustrate and confuse potential applicants that may wish to seek funding under multiple federal programs.

As to other definitions, NRECA recommends that "unserved areas" be defined as areas without any broadband access, e.g., areas without Internet access service at transmission speeds of at least 768 kbps in either direction; and that "underserved areas" be defined as areas with some level of access, but which level of access is inadequate, e.g., where residential dwellings are without access to at least one Internet Service Provider offering transmission speeds of at least 3 Mbps downstream and 768 kbps upstream.¹⁹ NRECA further poses that pursuant to these

¹⁶ *National Broadband Plan NOI* at para. 16.

¹⁷ *American Recovery and Reinvestment Act of 2009 Broadband Initiatives*, Joint Request for Information and Notice of Public Meetings, 14 Fed. Reg. 10716 (Mar. 12, 2009).

¹⁸ *National Broadband Plan NOI* at para. 15.

¹⁹ See Comments of National Rural Electric Cooperative Association, Docket No. 090309298-9299-01 (filed Apr. 13, 2009).

definitions there should a presumption that all counties designated as “rural” are “unserved” or “underserved.”²⁰

IV. REFORM UNIVERSAL SERVICE PROGRAMS TO IMPROVE ACCESS

As Acting Chairman Copps noted in the Rural Broadband Report, “it is time for universal service to meet the challenges of the 21st century – broadband deployment – just as it did the challenge of the 20th century: telephone service.”²¹ NRECA urges the Commission to modify its universal service programs and its funding mechanisms to advance the deployment of broadband in high-cost, unserved and underserved rural areas. For example, the High-Cost Program, created to ensure that consumers in rural, insular and high-cost areas have access to telecommunications services at rates that are affordable and reasonably comparable to rates charged in urban areas²², should be amended to provide explicit support for the provision of broadband in those areas that remain insufficiently profitable for commercial providers. Likewise, programs intended to ensure all Americans have access to affordable, quality telecommunications services, such as the Low-Income Program, should similarly be reformed to support the deployment of broadband to all Americans.

V. POLE ATTACHMENTS DO NOT IMPEDE BROADBAND DEPLOYMENTS

47 U.S.C § 224(a)(1) of the Telecommunications Act of 1996 (“Telecom Act”)²³ expressly exempts Electric Cooperatives from the FCC’s pole attachment jurisdiction. When considering whether pole attachments present an impediment to the deployment of broadband, we urge the Commission to recommend to Congress that the cooperative exemption from its pole

²⁰ Id.

²¹ Rural Broadband Report at para. 138.

²² The High-Cost program allows eligible carriers to recover some operating costs from the universal service fund. See 47 C.F.R. Part 54, Subpart D.

²³ *In re Implementation of Section 224 of the Act; Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, 72 Fed. Reg. 24238 (released February 6, 2008).

attachment regulations and rules remains sound public policy. In related proceedings, the Commission has been asked to clarify the applicability of pole attachment rules to Electric Cooperatives.²⁴ The short and clear answer is that the FCC's pole attachment rules have no direct application to rural utilities that are cooperatively organized. Historically, Electric Cooperatives, for good reason, have been explicitly exempted from the FCC's pole attachment jurisdiction.²⁵ Electric Cooperatives own and maintain 2.5 million miles, or 42 percent, of the country's electrical distribution lines and poles at substantial cost. Despite the large number of poles owned by Electric Co-ops, rate, access and other pole attachment disputes are few and far between. By contrast, Cooperatives have documented significant safety violations and unauthorized attachments by third parties. In any event, such disputes are typically resolved amicably with only a small number of cases actually proceeding to litigation. NRECA has commented on this exemption extensively in the pole attachment and related proceedings before the Commission.²⁶

NRECA reminds the Commission that electric utility infrastructure is robust and reliable and has routinely demonstrated an ability to survive severe storms and other disasters.²⁷ Adoption of specific, nationwide best practices as urged by some attaching entities may speed deployment of broadband in the short term. However, NRECA is concerned that shortcuts associated with such rapid deployment would assuredly compromise the safe and reliable

²⁴ See Comments of Time Warner Telecom Inc., One Communications Corp. and Comptel, WC Docket No. 07-245, RM-11293, RM-11303 (filed Mar. 10, 2008).

²⁵ 'Sec. 224. Pole Attachments, (a) Definitions, As used in this section: (1) The term "utility" means any person who is a local exchange carriers or an electric, gas, water, steam, or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications. Such term does not include any railroad, any person who is cooperatively organized, or any person owned by the Federal Government or State.'

²⁶ NRECA, Comments submitted in response to FCC Notice of Proposed Rulemaking regarding the Rules and Policies Governing Pole Attachments, WC Docket No. 07-245 (Filed April 22, 2009).

²⁷ See the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, *Report and Recommendations to the F.C.C.*, note 2 at p. 12 (June 12, 2006) ("Katrina Report").

operation of electric distribution networks and the safety of those people that work on, in or around such facilities. Thus, while NRECA firmly supports the FCC's broadband policy goals, the Commission should refrain from recommending altering the pole attachment rules in a way that compromises the safety and reliability of critical infrastructure, even in furtherance of such a worthy goals as rapidly deploying and promoting broadband.

Instead, the Commission should consider other ways to speed the deployment of rural broadband. For instance, the Commission could urge Congress to pass legislation that would provide that if a utility's easement permits the installation of broadband facilities and equipment for the utility's internal communications, then use of the same broadband facilities and equipment by third parties does not constitute an additional burden on the property. Historically, electric utilities have secured easements for their own purposes, that is, for electric facilities and equipment and the internal communications necessary to operate such facilities and equipment. Therefore, third parties who seek to make attachments to utility poles typically must secure their own easements from landowners. Disputes regarding third party attachers' easement rights²⁸ would thus be eliminated and broadband deployment facilitated.

VI. ADDITIONAL SPECTRUM IS CRITICAL TO REACH RURAL COMMUNITIES

NRECA also commends the Commission for seeking comment on how its wireless services policies can ensure efficient and effective access to broadband, including access to broadband in rural areas.²⁹ One important way in which the Commission can increase both the demand and supply for broadband services in rural America is through the allocation of needed

²⁸ See, e.g., *Gressette v. S.C. Elec. and Gas Co.*, 635 S.E.2d 538 (S.C. 2006); *Zhang v. Omnipoint Communications Enters., Inc.*, 272 Conn. 627; 866 A.2d 588 (Conn. 2005); *Va. Elec. & Power Co. v. N. Va. Reg'l Park Auth.*, 618 S.E.2d 323 (Va. 2005); *Mun. Elec. Auth. of Ga. v. Gold-Arrow Farms, Inc.*, 276 Ga. App. 862, 625 S.E.2d 57 (Ga. Ct. App., 2005); *Ogg v. Mediacom, LLC*, 142 S.W.3d 801 (Mo. Ct. App. 2004); *City of Orlando v. MSD-Mattie, L.L.C.*, 895 So. 2d 1127 (Fla. Dist. Ct. App. 2005).

²⁹ *National Broadband Plan NOI* at paras. 42-46.

spectrum. Sufficient spectrum is critical for terrestrial, wireless technology to reach the last mile of unserved and underserved rural communities. Reaching these rural communities via wireline technologies would be prohibitively expensive in many areas. Allocating sufficient spectrum, however, provides a mechanism for extending the last-mile of wireless services into rural communities, increasing the supply of broadband into rural communities and fostering increased demand for broadband capacity.

Licensed, dedicated spectrum must be allocated in order to fulfill the promise of smart grids and the provision of ubiquitous affordable broadband for all. Spectrum auctions have failed to result in broadband deployment to rural areas. Offering meaningful bidding credits to Cooperatives and other businesses with a demonstrated interest in providing broadband service to rural communities may help to win spectrum at prices that will allow them to offer affordable service in sparsely populated areas. Utilities Telecom Council's ("UTC") report, *The Utility Spectrum Crisis: A Critical Need to Enable Smart Grids* ("UTC Report")³⁰ extensively documents the spectrum needs and shortfalls utilities face. According to the UTC Report, electric, gas and water utilities in the United States need approximately 30 MHz of radio spectrum dedicated to their use to meet infrastructure needs and to help ensure reliable service for the next two decades.³¹ In particular, the UTC Report explains how utilities need dedicated

³⁰ (Jan. 2009), available at http://www.utc.org/fileshare/files/3/Public_Policy_Issues/Spectrum_Issues/finalspectrumcrisisreport0109.pdf (last viewed on 6/8/2009).

³¹ Id. UTC proposes the harmonization of the U.S. with Canada, which has allocated the 1800-1830 MHz band to support its electric grid. In its NOI, the FCC sought comment on the policies or programs adopted by other nations that may be useful to the Commission in this proceeding. Perhaps the Commission should look first to the policies and programs of its largest trading partner and neighbor to the north – Canada. Industry Canada's initiative to provide a contiguous, nation-wide block of 30 MHz for smart grid operations is both large and flexible enough to serve the vast needs of growing systems and increasing wireless data loads. This proposal may serve as a model to the Commission as it seeks to implement a national broadband plan here.

spectrum to ensure reliable service and faster restoration from emergencies and natural catastrophes as well as protect electric utility networks from cyber-based terrorist attacks.

An Electric Cooperative's number one priority is to keep the lights on, safely and reliably, an impossibility without robust and reliable communications system they can count on. As Cooperatives design and construct communications networks to increase the efficiency and reliability of their electric operations, a unique opportunity arises to leverage these upgrades by building excess capacity into these networks to advance the deployment of broadband deep into the Electric Co-op's service territory. Electric Co-ops have already recognized that coordinating backhaul construction of their internal networks and broadband deployment increases the efficiency of both efforts. Among other things, simultaneous build-outs can leverage existing easements and permits, which, as previously noted, can be a significant obstacle to rapid broadband deployment. A national broadband plan that enhances an Electric Co-op's ability to build high speed broadband networks on the back of smart grid infrastructure is an efficient way of advancing both national objectives.

VII. CYBER SECURITY IS VITAL TO RELIABILITY OF BROADBAND NETWORKS

The national broadband plan should recognize cyber security among the issues vital to the reliable operation of broadband facilities and the critical operations they support. However, in the interconnected world of broadband, short of disconnection, there is currently no 100% secure solution. Thus, the Commission's national broadband plan cannot focus solely on the prevention of cyber intrusions. Heavy investment in cyber security will quickly reach levels of diminishing returns. Consequently, the national broadband plan must also emphasize the equally important components of any effective cyber security plan: response and recovery to cyber intrusions. The national broadband plan should initially focus on securing the broadband

networks and infrastructure of those operations that are most critical to the nation's broadband network, e.g., critical infrastructure, financial institutions, public safety and homeland security.

NRECA urges the adoption of industry-developed standards and best practices as the preferred method for developing standards and/or best practices for broadband protection and recovery. While collaboration with government agencies may be necessary to rapidly develop standards and best practices for broadband protection and recovery, mandatory federal regulations should be avoided.

VIII. BROADBAND IS FUNDAMENTAL FOR SMART GRID OPERATION AND ENERGY EFFICIENCY

Electric Cooperatives provide electric service to some 43 million consumers in rural areas that cover 75% of the land area of the U.S. In order to do this, Electric Co-ops have built, own and operate 42% of all electric distribution lines in the U.S. As the Federal Energy Regulatory Commission recognized in its 2008 report on Advanced Metering Infrastructure for the Smart Grid, Electric Cooperatives are leaders in the use of smart grid technologies and demand response to improve efficiency of the production, delivery and use of electric power.³² Electric Cooperatives have been using such technologies for more than three decades to improve reliability, increase energy and asset efficiency and keep electric rates lower than they otherwise would be. The use of broadband technology is fundamental to effective operation of the smart grid concept, particularly as it continues to evolve and data requirements continue to escalate dramatically.

As one example, a number of Electric Cooperatives have incorporated broadband fiber optic cables in their transmission lines for bi-directional communication between electric

³² F.E.R.C. Ann. Rep. on the Assessment of Demand Response and Advanced Metering 8 (Dec. 2008), available at <http://www.ferc.gov/legal/staff-reports/12-08-demand-response.pdf> (last viewed on 6/8/2009).

substations for distribution automation, SCADA (system control and data acquisition), renewable integration and provision of demand response to consumers (e.g. smart grid). Such fiber can also be used to provide back mile capability for broadband internet service to rural areas. This nexus of broadband capacity and smart grid technologies in rural areas is a clear opportunity for America's rural consumers to access the capabilities of broadband internet service and the benefits of smart grid technologies at a reasonable cost.

As the Commission well knows, RUS has been involved with broadband financing since 2000, with the introduction of its broadband pilot program. RUS' broadband programs, together with new ARRA funding for smart grid investments, are important funding sources for Electric Cooperatives across the nation to expand their smart grid capabilities.³³ It is vital that the Commission coordinate this aspect of its national broadband plan with the RUS.

IX. SUBSCRIBERSHIP DATA AND MAPPING SHOULD INCLUDE SOCIAL METRICS

NRECA agrees that accurate broadband mapping is required to track broadband deployment and better identify communities without adequate broadband capabilities, that is, to identify those communities that are truly "unserved" and "underserved." The national broadband plan can be no better than the broadband mapping that it is based and evaluated upon.

Identifying the appropriate mapping criteria and implementing the proper procedures for tracking broadband data changes is vital to maximizing the use of federal resources and speeding the deployment of broadband that all Americans need. Broadband inadequacy can take multiple forms, as measured by the number of providers, cost of service, and service quality (e.g., speed and reliability). NRECA urges that any mapping needs to look at the cost of service by customer

³³ Food, Conservation and Energy Act of 2008, Pub. L. No. 110-246, 122 Stat. 923 (2008 Farm Bill); ARRA RUS Appropriations.

class—residential, business and institutional—as well as speeds of service offered and reliability of those services to each customer class. Further, efforts to map broadband in rural communities should include a component to measure broadband affordability. As noted above, Electric Co-op consumers tend to be at lower income levels than their urban counterparts. NRECA therefore urges that comprehensive broadband maps should be as granular as is practicable and should include social metrics such as poverty status, employment status, income, and race among other socio-economic metrics.

X. BROADBAND IS VITAL TO RURAL ECONOMIC DEVELOPMENT

Broadband is a prerequisite to community stability, vibrancy and sustainable rural economic development. Moreover and as Acting Chairman Copps has stated “broadband buildout to rural Americans promotes and encourages sustained economic development, to the benefit of us all.”³⁴ Chairman Copps further recognized the benefits of broadband to small businesses and agricultural activities in rural areas.³⁵

Without broadband, rural homes and businesses across the country are decidedly disadvantaged. Broadband capability is a critical component in creating sustainable and economically competitive communities.³⁶ Sufficient access to broadband enables quality healthcare, education and reliable emergency services, all bedrock institutions that are necessary to attract, as well as keep, residents and businesses that require sufficient connectivity to allow them to compete nationally, or even on a global basis.³⁷ Communities without broadband will

³⁴ Rural Broadband Report at para. 16.

³⁵ Id at para. 17, 18.

³⁶ See, USDA’s 2009 Edition: Rural Broadband at a Glance, Economic Information Bulletin (47), says that Internet access is becoming essential for both businesses and households.

³⁷ In the 1990’s, tobacco dependent Greene County, N.C. showed high rates of poverty, outmigration, brain drain and low educational attainment. In 2003, the county invested in a community wireless Internet system and gave every student in grades 6-12 laptop computers. In less than five years, Greene County’s high school SAT composite scores rose 41 points and applications for college tripled and more than 12 new businesses opened.

continue to lose resources and opportunities to broadband enabled communities or even countries.

A study by the Brookings Institution concludes that for every one percent increase in broadband penetration within a state, employment will increase .2-.3 percent - per year. For the non-farming economy, this translates into a national increase of about 300,000 jobs.³⁸ Facebook, Google, Yahoo, Amazon, eBay, Wikipedia and Twitter are but a few testaments to the entrepreneurial activity made possible via broadband. Broadband also enables civic participation. It engages the nation's youth, in not only local civic policies and programs, but also in the policies and programs of the United States, as well as on a global basis.

Questions revolve around what particular level of broadband is needed to facilitate economic development including how best to define "rural economic development," and what speeds are needed to facilitate that economic development. NRECA will not proffer a precise definition for rural economic development since what constitutes rural economic development may vary by region. While other commenters may be able to offer narrow definitions in furtherance of well-defined business interests, NRECA represents a membership serving consumers in vast areas that account for 75% of our nation's landmass, with some areas much more difficult to serve than others. Adopting a definition that is too rigid, or whose threshold speeds are too high, has the potential to exclude funding for deployment of even the most basic broadband service to the most difficult to serve rural areas. Thus, NRECA urges the adoption of definitions that are not only flexible and inclusive, but also capable of withstanding the test of time as broadband technologies and speeds continue to improve.

³⁸ Available at http://www.brookings.edu/~media/Files/rc/papers/2007/06labor_crandall/06labor_crandall.pdf (last viewed on 6/8/2009).

Likewise, there may be more than one given broadband speed that will facilitate rural economic development. In unserved areas that lack *any* access to broadband, minimal broadband speeds may enable economic development. In underserved areas where there is some broadband access but with limited broadband speeds, higher speed broadband may be the spur for that particular area's economic development. NRECA strongly encourages interagency cooperation and coordination when adopting definitions. However defined, common terms should be consistently applied across the several agencies responsible for broadband initiatives.

XI. CONCLUSION

NRECA commends the Administration and the Congress for the proactive, coordinated approach they have taken to speed the deployment of broadband to ensure access by every American. The Commission, through the development of the national broadband plan, can ensure that the nation moves beyond the statement of an imperative goal to an actual, viable strategy that will enable meaningful and measurable progress toward achieving that goal. In structuring the national broadband plan, the Commission should remain mindful of the necessity to expedite broadband deployment and adoption in rural America. Rural America is, by any definition and measurement, unserved and too many rural areas throughout the country still lack in 2009 *any* broadband service.

The good news is that Electric Cooperatives have shown that it is possible to successfully deploy infrastructure in difficult to serve areas and to provide critical services at affordable rates. NRECA and its members look forward to working with the Commission, NTIA and RUS to define and implement a plan to ensure broadband access for all Americans.

Respectfully submitted,

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EXHIBIT 1

Co-op Consumers Per Capita Income 93% of co-ops fall below the national average of \$27,260

